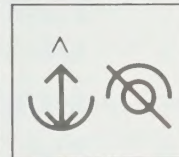
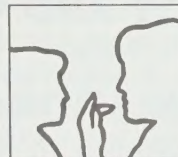


COMMUNICATING TOGETHER



A QUARTERLY MAGAZINE ABOUT AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

VOLUME 7, NUMBER 4

DECEMBER 1989



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WOLFS ARE TAKING OVER OUR CLASSROOMS

MARY ANN MCGINN AND
SANDRA NEUMANN

Mary Ann McGinn teaches multi-handicapped students at the intermediate level at Samuel Kirk Centre in Palatine, Illinois.

Sandra Neumann teaches multi-handicapped students in the primary school, Kirk South, in Hoffman Estates, Illinois. Both schools are self-contained special day schools which are part of the Northwest Suburban Special Education Organization.

They have presented at both state and national conferences on "Adaptive Equipment for Multiply Handicapped Students".

The WOLFs that we are referring to in the title of this article are the voice output communication aids (VOCAS) developed by the Wayne County Intermediate School District in Wayne, Michigan. These portable units have given many of our multi-handicapped students their first opportunity to use a VOCA.

The WOLF uses a Texas Instrument toy as its shell and has been redesigned to provide thirty-six "pages" containing thirty-six cells each, which can produce up to 500 vocabulary words on a membrane 7.5" x 7.5". The total device is 14.5" x 10". It is powered by rechargeable ni-cad batteries. The WOLF has been developed by Greg Turner and others at the Adamlab Division of the Wayne County Intermediate School District. The current price is \$275.00 (U.S.).

In addition to our WOLFs, we also have some SCANWOLFs. The SCANWOLF works according to the same principle as the WOLF except that the vocabulary is accessed through a single switch. A great feature of this device is the audio scan mode. If used in this mode, the WOLF will speak each vocabulary item one by one as it is scanned. When the user hears the item he wants, he activates the switch and that selection is repeated twice.

Being able to follow the scanning light visually on a communication device and activate the switch at

the appropriate time is often difficult for students with multiple handicaps. The auditory scanning mode enables students who have poor vision, eye/hand coordination and/or visual processing skills to have early success with voice output communication. The students still see the scanning light and get the added advantage of audio output. Although some of the students will always do best with combined audio visual scanning, we feel that the WOLF may help train some of the students to handle visual scanning in the future.

WOLFs in the Community

Our WOLFs are a vital part of our community based training programs. We have them programmed with vocabulary items that would be appropriate for many environments. Different overlays are designed to match the students' abilities. Some students may use overlays which have thirty-six cells, each representing single words, while others have cells joined together so that there are four to nine selections programmed as complete sentences. We have programmed some overlays so that the WOLF acts as a large

single pressure switch. Touching any spot will allow the child to place his food order, check out a book, give a social greeting or a social tag response.

Communication boards have taken on new meaning for the students, now that they have one that speaks. While most of the students still have ordinary boards as well as the WOLFs, they prefer their "talking boards", especially when going out into the community. They have enjoyed demonstrating their communication skills to clerks in stores, waitresses at restaurants or fast food chains, or librarians. Can you imagine the students' surprise when, on a trip to the library, they were told to quiet down by the librarian?

Before proceeding on a community trip, we often have practice sessions at school in which we review the dialogue we may experience. Students sometimes have different priorities for a trip. While we were planning an outing to the mall to go Christmas shopping, it was apparent that one of our students, Wayne, wasn't interested in shopping, nor did he do well during our practice sessions with his WOLF. Therefore, we were surprised to see him so



Jason Bristle uses a WOLF to practise colour matching skills.

excited on the day of our trip. When we arrived at the mall, the first thing he did was ask to see Santa Claus. After he was situated on Santa's lap, he used his device to say "Hi, my name is Wayne" and "I love you". He then gave Santa a giant bear hug! Needless to say, Santa was touched. As teachers, we were impressed, since this was one of the first times Wayne showed us that he would use his WOLF to initiate conversation, sequence vocabulary, and activate his device appropriately without prompting.

WOLFs in the Classroom

Back at school, the WOLFs go beyond their role of being a student's "voice" to become an important piece of teaching technology. Pages have been developed for colours, numbers, shapes, alphabet, environmental words, and money. We can use them for matching exercises, identification skills, and in educational games. They enable the students to point to an item and get immediate verbal feedback.

Selection of the visual cue to be paired with the verbal response is under your control as you design the overlays or "pages". Any photo, line drawing, Blissymbol or printed word can be used. Prerequisite learning of the symbols is not necessary; cause and effect — push it and see — will teach it easily! The WOLF is also a good way to teach encoding and develop higher level concepts and memory skills.

Creative use of the device by designing customized overlays is often necessary. To maximize a child's vision we use black, light weight paper as a background and highlight the pictures or symbols used. Changing configurations from vertical to horizontal may help some students with visual scanning. Making "upside down" overlays so the device can be used with the battery compartment on the right for left-handers is an easy adaptation. Of course, the student's best field of vision and range of motion often dictate positioning of the device but velcro easily secures this light weight device in the optimal spot.

In the classroom, some new skills have had to be taught now that we have so many voice output devices. The students are learning that when



Danny Pikora uses his WOLF to order ice cream.

everyone talks at once, no one is heard. They are learning to take turns and to listen to each other. Students are realizing that not only can they talk to the adults in the room, but to other students as well. It's great having students model each other. One of our students has surprised everyone by "graduating" from his WOLF to a Touch Talker with Minspeak™ software.

Our WOLFs and SCANWOLFs have proven to be durable devices. They have survived many bumps and bruises. The affordable price of the WOLF is appealing to parents as well as schools. It's versatile, as vocabulary can be added or changed. As we write this article, we are having our WOLFs upgraded to SUPERWOLFs. The upgrade gives you an additional user programmable vocabulary of 800 words and an additional thirty-six overlays. The new SUPERWOLF contains the user programmable vocabulary of 800 words and a fixed vocabulary of 500 words, and costs \$300 (U.S.).

It's time to stop complaining about VOCAs not being appropriate for all but the sophisticated user, or weighing the costs and type of verbal output you can expect from a student to determine who is an appropriate candidate. It's not necessary to wait for a long list of prerequisite skills to be mastered. We have had success teaching skills such as cause and effect, identification of objects and picture-object

matching by using the WOLF, rather than waiting until students acquired these skills in other ways before introducing them to a VOCA. Everyone deserves a voice, so if a WOLF is at your door, invite him into your classroom! □

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The International Society for Augmentative and Alternative Communication (ISAAC) offers four types of memberships:

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Ashok of India

KARI HARRINGTON



Kari Harrington was in the original Blissymbol class of 1971 at the Ontario Crippled Children's Centre. Since then, she has completed elementary school at James Robinson Public School in Markham, Ontario, and more recently, high school at Langstaff Secondary in Richmond Hill. She is attending a life skills class at Markham Participation House, and hopes to move there soon.

In this issue I have a wonderful success story to share with you that comes all the way from Bombay, India. (It reminds me a bit of Anne McDonald's rise from a very rough beginning in Australia and also Justin Clark and his achievements once he was given a chance.)

I learned about Ashok Ganguly from Anaheeta Nariman, a speech therapist and teacher at the Centre for Special Education operated by the Spastics Society of Bombay, India. In June of 1988, Anaheeta had taken the York University course on Alternative and Augmentative Communication given at the Easter Seal Communication Institute and met me there when I was demonstrating my Voice Output Communication Aid. She wrote to me asking for my thoughts about

my particular speech device and telling me about Ashok, one of the students at her Centre. In spite of many disadvantages, Ashok was making such exciting progress they wanted to consider a voice output device to help him in his communication and language development.

A New Beginning

Ashok is nonspeaking and a spastic quadriplegic. He was abandoned when he was three years old and was taken to live at Mother Theresa's Orphanage Home. Until he was six and a half, Ashok spent most of his time in his cot with very little stimulation of any kind: no schooling or other opportunities to learn. At this time, his cerebral palsy caused him to be very floppy and he had almost no control over any of his body movements, especially his hands. Four years ago, in May of 1985, Ashok was taken to the Centre for Special Education for the first time and was given a very informal assessment. Because he came across as being alert and interested, the Centre accepted him into their Reception Class. That was the beginning of many happy events for Ashok.

Ashok's first school activities were to use blocks, pegs, rings and jigsaws as part of his pre-reading and pre-number programs. These tasks helped him mentally and physically. His movements became more controlled and less involuntary. He learned to colour and paint and achieved a remarkable degree of co-ordination, despite his severe handicap. That part reminds me of myself because that was true for me, too. A big difference though, is that I had support and reinforcement from home as well as school and Ashok accomplished all his gains at school between 9 and 3:30, before he returned to the orphanage.

At the Centre, Ashok learned to communicate with Blissymbolics and knows all the 400 symbols on his chart. His reading skills have progressed and now most of his symbols have been replaced with the words. Using his chart as his 'voice', he answers questions, communicates his needs and does his language and reading. When a word is not on his chart, he spells it out. His spelling and grammar skills are given great importance and in spite of the added challenge of having two languages to deal with (his native language as well as English),



Ashok Ganguly of India

**This section of
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he is doing very well. At first, he made letters using rubber stamps but now he uses an electric type-writer efficiently.

In May 1987, Ashok left the orphanage and became the foster child of a teacher for cerebral palsied children. With the added caring, support and stimulation he is receiving in his new home surroundings, Ashok is overcoming some of his earlier emotional deprivation. "He is such a cheerful child," Anaheeta says, "He seems to be almost permanently happy." You can see that from his picture! Ashok has become much more independent with the tasks of daily living: washing, dressing, bathing and feeding, and he works hard at the therapy which is helping him to sit independently and to gain independent mobility.

Anaheeta and all the people who work with Ashok sound very proud of him and all he has accomplished in so short a time. I feel proud of him just reading about him, and I'm sure you do too. □

Editor's Note:

Kari always likes to get mail from readers around the world. If you have news to share in "Family and Community" write to:

Miss Kari Harrington,
16 Jonquil Crescent,
Markham, Ontario, Canada
L3P 1T4



A work session at the International Panel Meeting in Israel.

INTERNATIONAL NEWS

Panel Meeting in Israel 1989

SHIRLEY MCNAUGHTON AND
KATHERINE SEYBOLD

Shirley McNaughton and Katherine Seybold are two members of the Canadian delegation who attended the Blissymbolics International Panel Meeting in Israel in August 1989. Mrs. McNaughton was on the original team at the Ontario Crippled Children's Centre (now Hugh MacMillan Medical Centre) Toronto, Canada, that first used Blissymbolics as an augmentative communication system. She has recently retired as Executive Director of Blissymbolics Communication International. Mrs. Seybold has been involved with BCI since 1982, and has recently been appointed Administrator. They collaborated on the following account of their experience in Israel.

It all began during the 1988 BCI European Affiliate meeting — on a bus, returning to Milan from a most enjoyable day of sight-seeing in Bergamo, Italy. Judy Wine, Affiliate from Israel, and Claudia Wood, BCI System Co-ordinator, were discussing Blissymbolics system development and the need for longer, more

focussed discussion than was possible at Affiliate meetings. During these regular annual gatherings, system development has to share the delegates' time and attention with affiliate reports, training, new materials and technological developments.

The thought expressed was "Wouldn't it be wonderful to have two weeks with only system development on the agenda?" Judy added, "Maybe we could organize such a meeting in Jerusalem in 1989. What do you think?"

Well, it's not difficult to guess Claudia's and Shirley's reaction!

"Fantastic idea! Dream or possibility?"

Making the Dream a Reality

If we had paused to consider Judy Wine's accomplishments, we wouldn't have questioned the possibility of such a meeting for a moment! The bus conversation took place in March, 1988. By January, 1989, we had received a preliminary agenda and arrangements. The meeting took place August 20-30, 1989.

How does one describe the range of activities in which thirty-eight Blissymbol instructors from ten different countries participated? We arrived at Ben Gurion airport, near Tel Aviv, and were met personally by either one of Judy Wine's family members or one of her colleagues. After a day to catch up on jet lag and explore the Old City of Jerusalem, we began our study sessions on Sunday.

In the ten days that followed, many topics for the development of the Blissymbol system were discussed, debated and decided upon. The format was of general meetings followed by smaller group discussions (usually under a palm tree!). This allowed the participants to become aware of some of the larger issues such as principles for the development of new symbol vocabulary and vocabulary development guidelines and then to delve into specific symbol creation within such diverse categories as sexuality, religion, and terms for grammar, computing, and daily living. This interactive work, varying the com-

position of the groups each session, was most valuable in getting active involvement of all the participants and arriving at consensus.

Woven into the symbol work were sight-seeing excursions in Jerusalem and Tel Aviv, museum visits, gatherings at participants' homes and trips throughout Israel. There were so many special events: folk dancing in a large square, walking and window shopping in Ben Yehuda pedestrian mall, touring North Israel and staying at Kfar Blum Kibbutz. We went swimming in the Mediterranean, shopping in the old city of Jaffa, sight-seeing to the Lebanese border, visiting the Golan Heights, and even floating in the Dead Sea.

But the greatest enjoyment for all had to be the Bar Mitzvah for Blissymbols in Israel, when all the participants of the seminar visited the Kibbutz Saad and met the many Blissymbol users who had been taught by Judy Wine and her Israeli associates in the thirteen years since 1976. There was great excitement with speeches, games, dancing and singing contributing to our celebration.

As we look back on Israel, 1989, we will remember fondly the camaraderie we all felt, as we debated symbols. We were aware of being immersed in the history of the area and felt the warm hospitality of everyone at the seminar. Our visit to the Arab village of Rama, where one of our participants lived, was especially memorable. Our walk in the Arab quarter of the Old City, with Annalu Waller using a wheelchair, proved that with determination anything is possible. The piano concert, high up in the Galilean Hills, surrounded by the most beautiful view, will long be remembered by us all.

The overwhelming success of this first System Development Seminar is due to the excellent organization of Judy Wine and her Israel committee in making the local arrangements for accommodation, transportation, touring, and other activities; and to Claudia Wood for the meticulous preparation of the content of the meeting.

We have many new symbols and a much better understanding of the system's structure as a result of our Israel seminar. We also have many happy memories of a beautiful and

varied country and of vital, dynamic people building a young nation. It was a challenging task to work in a large, multicultural group. We left with renewed enthusiasm and respect for the system and with our friendships and knowledge enriched tremendously. □

Editor's Note:

The International Panel serves as an advisory body to the BCI symbol office. At the meeting in Israel, consensus was reached on over one hundred symbols relating to human reproduction and sexuality. These were then presented by the System Co-ordinator to the Symbol Committee which met in late November. Those symbols approved by this committee are now part of the BCI Standard Vocabulary and will be disseminated by BCI early in 1990. Anyone interested in more information on the new symbols should contact:

Ms. Claudia Wood, System Co-ordinator, BCI, 250 Ferrand Drive, Suite 200, Don Mills, Ontario, M3C 3P2.

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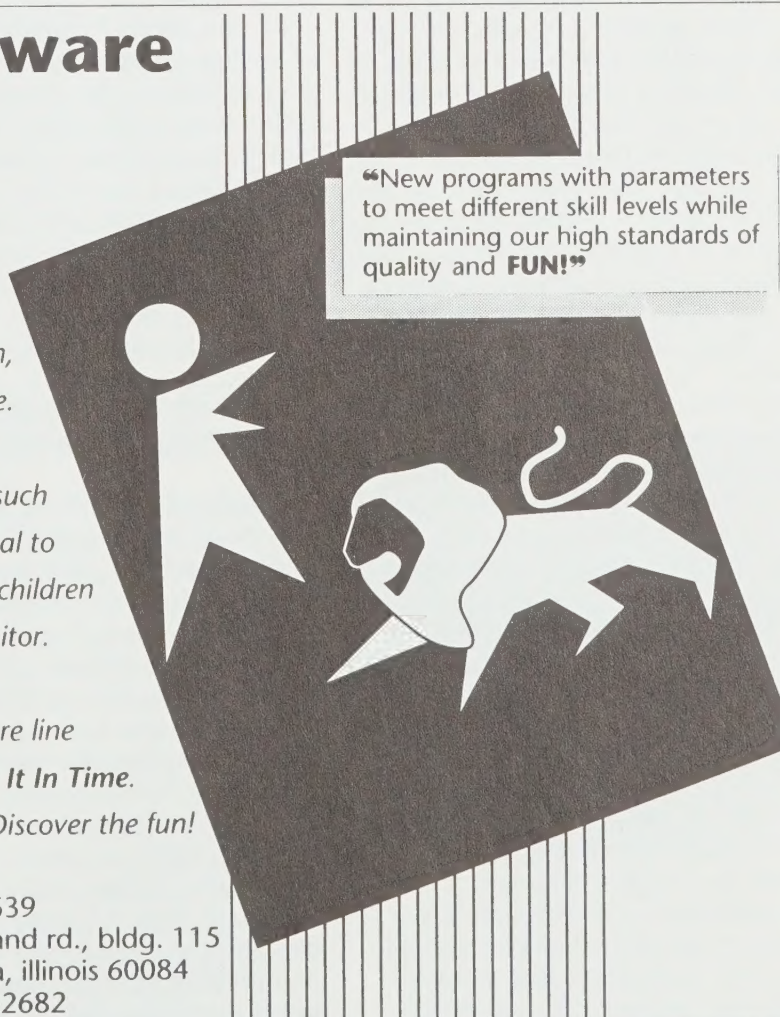
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Semantic Compaction Systems

BRUCE BAKER



Bruce Baker has given the field of Augmentative and Alternative Communication (AAC) an innovative system for encoding, storing and retrieving words and phrases. As a result of his creative thinking and tireless effort, persons who are non-speaking have the opportunity to produce full English utterances from a small number of symbols. They can take advantage of synthetic speech to express whatever they wish to say, without relying on a mastery of spelling. Several new terms have been introduced in order to implement this unique way of communicating — Minspeak™, Words Strategy™, and semantic compaction. In the following article, Bruce explains these terms and in a clear and succinct style, describes his entry into the field of AAC, the rationale for his system and the basic concepts underlying its design.

Semantic compaction deserves and is getting much attention in North America, the United Kingdom and Australia; initial work is now underway to make the system available in languages other than English. Bruce's close affiliation with the Prentke Romich Company, and the strong training and service support this provides, is bringing his system to thousands of persons. Now that there is a large population of users, researchers and clinicians are beginning to identify the skills required for semantic compaction and the populations who can best take advantage

of its capabilities. Bruce's original thinking and his continuing efforts toward the further development of semantic compaction are making a valuable contribution to AAC. We welcome his perspective in Communicating Together.

Shirley McNaughton

Semantic Compaction Systems is an organization that grew out of a project I was working on in graduate school. I was exploring the way languages express social prejudices. The particular focus was on the way prejudices are expressed toward people with disabilities in French and English. After a certain time in this work, I wanted to talk to some people with disabilities. I went to a rehabilitation centre and presented my credentials. Soon, interviews were arranged. There was a problem, however. The very bright individuals who were willing to discuss social prejudice and disability with me were also unable to speak or use hand signs.

At that time, I thought this kind of severe communication disability was unique to the small group of individuals with whom I had contact. Small though I thought this group was, I found their circumstances poignant. They were using communication aids based on numbers or spelling. As a linguist, I knew there were other ways to represent and transfer information.

The Need to Generate Ideas with Limited Physical Effort

The individuals whom I met needed a system that allowed them to generate speech by making only a few actions. They also needed a system that did not have hundreds and hundreds of symbols. Imagine scanning through 500 symbols! These twin needs are contradictory in most contemporary language representations. For example, the alphabet is a small symbol set, but it requires thirty or more selections from that symbol set to express a complete idea. Chinese characters, on the other hand, can express a complete idea with only six or seven symbols, but the Chinese

writing system requires thousands of different symbols. The only writing systems I knew of which satisfied these seemingly contradictory needs were based on hieroglyphic techniques.

In hieroglyphic systems, one symbol means several different concepts depending upon context. Hieroglyphic systems require relatively short strings of symbols to express complete ideas. Yet, the set of symbols for a hieroglyphic system is relatively small because the system assigns a variety of meanings to each glyph. I set about to construct a system of language representation using the principles employed in hieroglyphics.

I called the result Minspeak™. I jocularly named the system after George Orwell's "newspeak" in his science fiction novel, 1984. This technique allows users to generate language with a 50 to 75% savings over traditional orthography, and at the same time, has a keyboard which uses substantially under one hundred symbols. One need not necessarily know how to read to use this system. It enables users to have very large stored vocabularies. Many device users who are cognitively intact have thousands of different words, phrases, and sentences at their disposal. Many cognitively impaired individuals have hundreds of words and sentences at their command.

I showed an early version of the system to Richard Creech, the first individual I had ever spoken to who used a voice-output communication aid. During this period of our interaction, Rick explained to me just how large the number of non-speaking people was. He stressed also that what I was doing was unique. I had a hard time believing this at first.

I worked for some months refining the system and exploring other systems being proposed for nonspeaking people. When I was satisfied that Minspeak™ was not a reinvention, and that the system could be generalized, used by a large group of people, and was firmly based on principles, I called a friend and former student, who was a professional mathematician and software engineer, Kenneth Smith.

Ken helped me conceptualize, in

terms of computers, the implications of the system I was proposing. He also began designing a program to demonstrate the principles of the system on an AIM 65 computer. All of this occurred during the spring and summer of 1980. In September of that year, I attended a conference at the National Institutes of Health in Bethesda, Maryland sponsored by the President's Committee for Nonspeaking People. I attended as Rick Creech's chauffeur! At this conference, I met Barry Romich for the first time.

Linking Up with Barry Romich

Kenneth, Rick, and I proposed to Barry that we develop Minspeak™ together as a communication aid. Barry's support and enthusiasm from the very beginning resulted in our signing a contract early in the fall of 1981 to produce a dedicated voice-output device based on the fundamental principles in Minspeak™. In a private meeting in Barry's office, he said to me, "We've been engineering these devices to death, but nobody ever seems to communicate with them. This system may supply the missing link."

Semantic Compaction Systems developed as an organization from these early activities. The name "semantic compaction" was coined to describe what it was that Minspeak™ used to produce its unique results. "Semantic" connotes "meaning". "Semantic compaction" first means finding many meanings on a single picture. Its second implication is using a few meanings to generate complete thoughts. The earliest conception of Minspeak™ envisioned using artificial intelligence to go from a few meanings to complete, well-formed sentences.

The first Minspeak™ system was realized using Express III™ hardware. Rick Creech used this device as his personal communication aid beginning in September of 1982. The first systems were made commercially available at the ASHA Conference, 1983. Since that time, the system has been well served indeed. Many individuals, consumers, special educators, and speech language pathologists across North America and Europe have made contributions to our understanding of the application of semantic compaction.

Joan Bruno, Ph.D., Prentke Romich Company, Wooster, Ohio showed us how to use the system for bright young children. Sue Sansone, Director of Speech Pathology, AHRC, Bohemia, New York showed us how to apply the technique for cognitively impaired adults. Gail VanTatenhove, M.S., CCC-SLP, Orlando, Florida extended the system for use by cognitively impaired children. Robert Stump, of the Pennsylvania Office of Vocational Rehabilitation, developed the educational implementation of the system for vocational rehabilitation. Pamela Elder, M.S., CCC-SLP and Carol Goossens, Ph.D., Birmingham, Alabama have developed assessment protocols to enable clinicians and special educators to assess an individual's cognitive and language status in relationship to semantic compaction.

Minspeak Goes International

Today, more than 8,000 devices based on the Minspeak™ concept are in the field. There is an annual Minspeak™ Conference held each fall in the United States. This year, the First International Minspeak™ Conference took place in Manchester, England. Delegates from the United Kingdom, Republic of Ireland, France, Germany, and Sweden were among the attendees. These activities were coordinated by Liberator, Ltd., the Prentke Romich European affiliate. This fall Minspeakers International is being formed. This is a non-profit organization for consumers who use the Minspeak™ system. It is the largest consumer organization in AAC and may be the largest, single organization in this field.

The relationship between Semantic Compaction Systems and the Prentke Romich Company is one founded on friendship and a shared vision. Semantic Compaction Systems owns the patents for the semantic compaction technique. The patent process was initiated in 1981. A broad and detailed patent was granted in April, 1987. This patent is leased exclusively to the Prentke Romich Company for products for people with disabilities.

Semantic Compaction Systems exists primarily to serve the interests of individuals who use Minspeak™, and it helps organize seminars and

other training activities and develops and refines applications of the various Minspeak™ products. Minspeak™ application programs — such as Words Strategy™ — are either developed by Semantic Compaction Systems or with its extensive cooperation. It has a staff of seven employees and is located in Pittsburgh, Pennsylvania.

Another role of Semantic Compaction Systems is to extend the capabilities of Minspeak™ systems. Modern language studies have developed a branch called computational linguistics. This branch of linguistics deals with parsers or programs which analyze language structure. As more cost-effective computer hardware becomes available, Minspeak™ can take advantage of these new, intelligent systems, particularly parsing technology. The existing Minspeak™ Touch Talker/Light Talker synthesis can be viewed as just the first step in the development of the semantic compaction technique.

In the future, Minspeak™ users will be able to have greater freedom in icon selection, not having to worry so much about the precise ordering or completeness of the icon sequences, as well as making fewer selections than is presently possible. A reduction in the number of selections and the field of selections that such intelligent parsing can produce may be a substantial aid not only to those individuals who are cognitively intact and have intact language, but also to those individuals who are cognitively impaired or who have serious language deficits.□

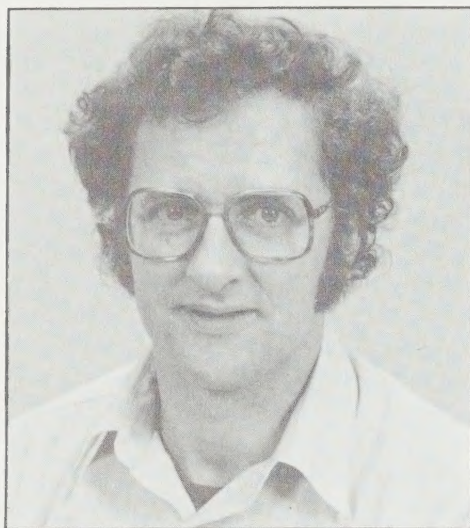
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Update on Robotics

GEB VERBURG



"Research and Publications" is written by Geb Verburg, who has been involved in the field of nonspeech communication since the mid-seventies. A cognitive scientist, Mr. Verburg is currently working as a research associate in several projects at the Hugh MacMillan Medical Centre, Toronto.

Personal robots, robot assistants, robot companions and robot pets are another step closer to their realization. On September 5-7, 1989 a conference was held in Newcastle-Upon-Tyne in the United Kingdom with the title: "The 1st Workshop on Domestic Robots / The 2nd Workshop on Medical and Healthcare Robotics". Using the proceedings of this conference, I want to share with you some of the thinking and developments that are beginning to shape this amazing field. And I want to do so for two reasons. Firstly, there really are going to be cuddly, clothed, kind and caring, wheeling or walking machines that can do "household cleaning, gardening, cooking and food preparation, ... decoration and maintenance" (p ii), to mention some anticipated categories of domestic applications. Secondly, these domestic applications and the equally futuristic potential for medical and healthcare applications such as rehabilitation, patient and home care, prosthetic devices, smart wheelchairs, and

physiotherapy all have a high possibility of impacting on persons who are nonspeaking, their family, and service providers. It therefore behooves us to keep an eye on what these domestic and healthcare robots are going to be able to do. We should also observe how (or whether) nonspeaking persons can control their robot companions/assistants/pets.

Present State

The field of robotics is at a stage where useful robotic applications in fixed locations with limited capabilities have successfully been demonstrated and tested in laboratories. Clinical testing in the home has not been performed beyond one or two demonstration cases. However, already companies are producing robotic workstations and are selling robot arms. More and larger industries are looking into the feasibility of domestic robots and I will dwell on a study carried out in Japan by Kato, Yonemoto, and Ono, authors who represent the academic, industrial and public research interest in domestic robots in Japan.

Future Features of Domestic Robot (DR)

Kato, Yonemoto, and Ono surveyed staff from thirty-seven institutions including universities, public research centres and members of the Japan Industrial Robot Association. The authors believe that the personal robot "will revolutionize life in the 21st century." They formulate a long list of "functions required of personal robots." I will discuss these features at length because they are likely to form a target towards which industry will start to work.

Five categories of functions are identified:

- (1) the robot should be an autonomous unit;
- (2) it should be safe, and do no harm to people (Sci Fi Readers will recognize Isaac Asimov's first law of robotics here);
- (3) it should be able to communicate;
- (4) it should be light, short, and

small, and finally
(5) a miscellaneous category of functions.

Autonomous Unit

As autonomous units, the robots "will need to be able to function like human beings", they "need to include leg-movement, two arms, visual capabilities and telephone interfaces", and they need to be able to recognize objects (p 3), handle appliances, and be able to learn (p 4). The safety function is not further specified, which together with its relegation to second place in the list of functions might reflect a greater degree of confidence in the human control of machines.

Able to Communicate

The personal robot is expected to be able to communicate and I will quote the functional requirements in full.

- Robots "will need to react to human language, expressions, body temperatures and odours."
- "They will have to be able to converse in natural language."
- "They will need to be able to use the voice of friend or loved ones (in response)."

One of the miscellaneous functions fits here too:

- "Robots may function as a medium of communication between human beings."

From the point of view of control of the robot, these requirements create another obstacle for nonspeaking persons. However, both the robot's voice output and its potential as a medium of communication (direct or phone) are intriguing possibilities. For the time being, the more practical possibilities lie in spinoff technologies that emerge from the efforts to design robots that can communicate. A definite additional feature will have to be a method of communication that allows the robot to move independently (untethered) yet allows a nonspeaking person to control the robot. The chances for such an interface being developed are fairly high because a non-voice based interface is required by everyone to call the robot from a different room

in the house or from the garden. A prototype system using switches or a joystick which manipulate a robot moving on a computerized map of its environment has been developed at the Hugh MacMillan Medical Centre.

Light, Short, and "Kind"

"Robots need to be light enough to walk on tatami mats without damaging them." This culturally specific criterion together with size and storage requirements will place tough requirements on the producers, but once met, these specifications will keep lumbering monsters out of our homes.

I have difficulties with some of the features identified by respondents to the survey, to wit: — "Users (individuals) should be able to change their [i.e. the robot's] 'clothing'. (They can be treated as pets if so desired.)"

— "'Kind' robots should exist side by side with human beings."

— "Robots may be viewed as life partners."

I can see a robot as a pet, but to regard a robot as a life partner would seem somewhat limiting. Then again as an attendant, a robot is definitely more patient, more confident, more even-tempered, and more content. And I can also see a robot as a computer based, friendly and patient counsellor — a thing you can communicate with and get reflective feedback. I can see a combination of technologies becoming enormously addictive and comforting for a person who is more than averagely, socially isolated. I do not know whether such a situation is positive or negative and do not want to evaluate that situation until it creates itself.

What are Domestic Robots Expected to Do?

The list of activities that Kato et al.'s respondents foresee for the domestic, home, or personal robot covers housework, security, environment, health, entertainment, education, and public works. The specific tasks range from seeing-eye robots, robot wheelchairs, bathing and diaper changing robots (for the elderly), robots which wash dishes, cook, and fold clothes, security robots which would be busy night watching, fire fighting, and lifesaving, but which could also process the

garbage, plow the snow, give a massage: all the way to the home doctor robots, caddie robots, pet robots, sign-language instructor robots, and shopping bag carrying robots.

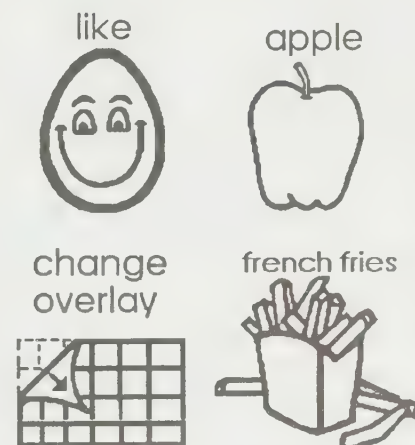
While reading the Newcastle proceedings I often felt a sense of unreality, a doubt about whether this is truly going to happen. Kato et al are realistic enough to observe that "at this point there is no obvious market for personal robots". The lack of a market has failed to deter enough millionaires. Kato and colleagues are not totally correct in the market assessment. There are groups of people who could very definitely use these nifty machines as long as they could be operated much like one operates a computer or voice aid.

I would like to leave a little challenge and an invitation. A small group of people at Hugh MacMillan Medical Centre has been asked by the National Research Council of Canada to carry out a survey to determine the properties of a smart or intelligent wheelchair. Any readers who have strong feelings about powered wheelchairs and about the weird and wonderful things that may become possible with these robot-like chairs, are invited to send me their name and address and I will include them as a participant in our survey. □

References

- International Advanced Robotics Program and Department of Trade and Industry *Proceedings of the First Workshop on Domestic Robots / The Second Workshop on Medical and Healthcare Robotics* Newcastle-upon-Tyne, United Kingdom, September 5-7, 1989.

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Bliss in a Day

SHIRLEY McNAUGHTON

In response to the need for busy professionals to learn the basics of Blissymbolics, we have decided to begin holding One Day Workshops. After attending a six-hour introduction to the system, we hope instructors will feel confident to begin working with a student, knowing they can continue their learning through further reading and study and through interacting with their student.

How can the capabilities of Blissymbolics be transmitted in a day? We are going to take advantage of our growing knowledge of the system and its rules; we are going to use exciting new technology; we are going to present Blissymbolics for the '90's.

Using our Knowledge of the System

We are now able to look at Blissymbolics in new ways. Our experience of the 70's and 80's is allowing those with understanding of the system to be more flexible in their use of Blissymbolics. We know that its organization as a system is its strongest asset for the person who is nonspeaking. The principles emerging from the system's structure and the strategies developed over years of symbol use, now give us new opportunities for generating new meanings and for new language learning.

Blissymbols used herein are derived from the symbols described in the work *Semantography*, original copyright © C.K. Bliss, 1949.

September 1982, C.K. Bliss granted an exclusive, non-cancellable and perpetual, world-wide license to the Blissymbolics Communication Institute, to provide standards for the application of Blissymbols, for use by handicapped persons and persons having communication, language and learning difficulties. In 1987, the Institute was renamed Blissymbolics Communication International.

Our Objectives for Bliss in a Day

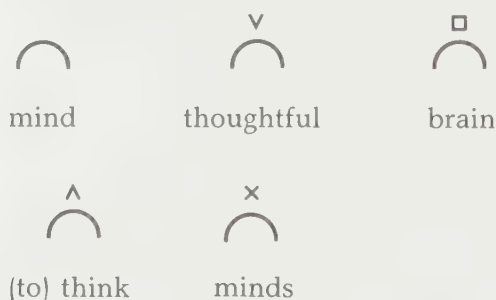
Bliss in a Day will focus upon the structure of the system of Blissymbolics in order to learn:

1. Any concept can be portrayed in Blissymbolics;
2. The logic and meaning base of each Blissymbol's composition offers the opportunity for important cognitive learning;
3. Through communicating with Blissymbolics, users sequence and manipulate a *language system*;
4. Reading and writing Blissymbols provide valuable pre-reading and pre-writing experiences;
5. Blissymbolics can grow with individuals and can serve either as a lifelong system or as a transitional system to traditional orthography;
6. Blissymbolics provides the learning medium to progress from concrete to abstract representation.
7. Blissymbolics, if well taught, can be a dynamic system that allows the instructor to relate to the interests of the learner and that accommodates novel, spontaneous communication;
8. Technology now offers new ways of applying the capabilities of Blissymbolics.

Blissful Activities Together

We will learn about the vocabulary expansion capabilities of the system e.g.:

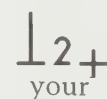
The Indicators



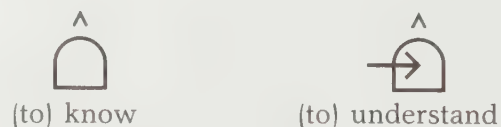
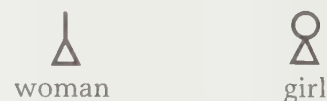
The Tenses



The Possessive



We will learn about groupings of symbols:



We will learn how to look up unknown meanings or find associated meanings in the "Finding Symbols" section of *Blissymbols for Use*.

We will have experience with the strategies of "opposite meaning", "combining" and "initial consonants", and learn how to gain information about other strategies.



We will explore *Picture Your Bliss* as a teaching support and consider other ways of bringing meaning to the symbols, always relating to the learner's knowledge base.

We will note the drawing rules as we write symbol sentences:

- skyline, midline, earthline
- size, position, orientation

We will introduce the new technology. Gradually Blissymbols are stretching beyond the communication boards and the computer programs of the 80's. We will look at the many new Blissymbol applications for the Macintosh computer (see page 21). We will consider the range of components supported by Blissymbolics as the individual's representation system for early talking, reading, writing and telephone communication, and for semantic compaction through Words Strategy™ and Minspeak™, as the person becomes ready. Technological developments have made it possible for individuals to remain with one graphic communication system, Blissymbolics, gaining security and expanding their world knowledge through having a strong, consistent framework on which to build.

The Real Learning Begins

After a day of Bliss, we hope participants will look at every symbol in a new way, by its system features:

its shape-meaning relationship; the group in which it can be placed; its potential for picturing; its semantic associations — all possible because Blissymbolics is a system. The real learning begins, of course, as instructors transfer these insights to their students in their new discoveries in the months and years ahead. Those of us who have been involved in Blissymbolics since the 70's are still learning. We hope that our new training format will begin the same process for all who attend.

We invite you to join us in Toronto (April 4) or ask us to come to you for *Bliss in a Day, The System Way*. □

For further information contact: Katherine Seybold, Administrator, Blissymbolics Communication International, 250 Ferrand Drive, Suite 200, Don Mills, Ontario M3C 3P2.

Shirley McNaughton Travel Scholarship Announced

In conjunction with the reception on May 17th, 1989 honouring Shirley McNaughton's investiture into the Order of Canada, and her retirement from administrative responsibilities with Easter Seal Communication Institute, a scholarship fund was established. Many friends and colleagues from all parts of North America and Europe contributed generously, providing a solid financial beginning for the scholarship.

The Award

The Shirley McNaughton Scholarship will be awarded to assist a consumer attend a conference focussing on augmentative communication. The BCI Board of Directors will appoint a scholarship committee with international representation. This committee will select a conference at least biennially for which the scholarship will apply, and administer the selection process.

The first scholarship will be awarded next year, to an augmentative communicator attending the Fourth International ISAAC Conference on Augmentative and Alternative Communication in Stockholm, Sweden August 12-16, 1990. The value of the scholarship will be \$1,000.00.

Eligibility

Applications are invited worldwide from users of any form of augmentative communication, who are 18 years of age or over, and who have submitted a paper for presentation at the conference. The winning candidate must have had his or her paper accepted.

To apply, candidates are invited to write a letter of application outlining how they feel they can contribute to the conference and what benefit they feel they will gain from going. A copy of the abstract of the paper submitted should be attached, as well as a budget of anticipated expenses for the trip, and an indication of how expenses not covered by the scholarship will be met.

Deadline for submission of the application is February 1, 1990.

Announcement of the scholarship winner will be made soon after BCI has been notified as to which applicants have had their papers selected.

Applications should be mailed to:
Katherine Seybold
Administrative Coordinator
Blissymbolics Communication International
250 Ferrand Drive, Suite 200
Don Mills, Ontario M3C 3P2

CATHY FAIRLEY

The Paraphrase is written for those who are moving into traditional orthography. It offers an independent reading opportunity for the growing reader. The Paraphrase is written by Cathy Fairley, former consultant, Easter Seal Communication Institute. Kari Harrington is now finished high school. Last year she wrote about how this big change made her feel.

When School is Over....

I don't go to school anymore. Most kids are happy when school is over. Not me.

I miss school a lot. I miss getting ready. I miss my teacher. I miss my bus driver. I miss a boy named Jared. He was on my bus. We had fun talking.

Now I talk to friends on the telephone. I have an Epson with RealVoice. Kevin is a friend from school. He left school last year. He had a hard time too. We talk about how sad it is to leave school.

Now we both go to a Life Skills and Workshop program in the afternoons. I am starting a math course by mail, and soon I'll be working on a Bliss project.

Soon I'll be too busy to feel sad anymore. I will laugh about how sad I felt. Keeping busy and making new friends are the only things to do. □

To Readers of Paraphrase

Kari Harrington's original article appeared in *Communicating Together* Volume 7, Number 1, March 1989.



Kari Harrington and her friend Benny Belair

Communicating in Ontario



A NEWSLETTER FOR EDUCATORS ABOUT AUGMENTATIVE COMMUNICATION

Number 10, Dec. 1989



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Orientations at ESCI

Orientations to the ESCI Service Program are held on the second Tuesday of each month. **Orientations to Graphics** are held every third Tuesday of the month. If you are interested in attending one of the orientation sessions contact Darlene Blachar at ESCI (416) 421-8377.

Reading '90

Language and Learning 23rd Annual Conference

February 14 - 16, 1990.
Contact: The Centre for
Continuing Education
York University
4700 Keele Street
North York, Ontario
M3J 1P3
(416) 631-9822

Take Control of Your Environment

Honeywell, the company that for many years has kept us comfortable through the long cold winter months with their thermostat controls, has recently developed a range of products designed to make home and classroom automation easier. As well as making life simpler for the disabled population, Honeywell has reduced the pinch that purchasing some of these devices makes on the pocketbook.

A sampling of their products includes a sensor that detects body heat and automatically turns on the light. If the device does not detect movement after a preset period of time the device turns the light off.

The usual timers are simple compared to the "intelligent" timers that Honeywell is producing. These timers automatically adjust for changes in the seasons and can be programmed to be activated up to four times a day.

These products are all available for less than \$50.00 and can be purchased at local hardware stores. Now we can make our classrooms more accessible to our students and not spend a whole year's budget doing so!

Assessments

Are you looking for an assessment tool to use with your cognitively impaired nonspeaking students? The PVCS (Pre-Verbal Communication Schedule) is a 195 item checklist that can assist teachers and speech therapists to obtain information about a child's strengths and weaknesses in communication, set specific goals for individual children, and record their progress. The checklist assesses students in the following area: attention seeking, need satisfaction, negation, negative interaction, shared attention, motor imitation, vocal imitation, understanding of nonverbal communication and understanding of vocalization and speech. The Pre-Verbal Communication Schedule is available from Nelson Canada, 1120 Birchmount Rd., Scarborough, Ontario. M1K 5G4 (416) 752-9100.

Technology Up-Date

At the *Augmentative Communication Rounds* in September, there were several interesting projects presented that are being developed in Ontario.

Peter Reich provided an update on what is happening with the *VOILA* (*voice output intelligible linguistic aid*). This linguistic aid will place into a computer the intelligence that a human interpreter brings when engaged in a communication exchange with a nonspeaking individual. We hope to hear more about this project in the new year.

Fraser Shein reported on the progress in the use of the *Macintosh* Computer to create *Blissymbol* displays. ESCI will make these programs available when they are ready for distribution.

Neil White announced that the *Bloorview Miniature Keyboard* is available from Bloorview Children's Hospital. It is an alternative keyboard which has a small screen, needs little pressure to activate, and provides good feedback to the user. The keyboard plugs into the keyboard port of MS-Dos computers, most Apple computers and the ICON-1.

Looking for Software ?

The faculty of education at York University has an on line database of software information for educators. The data base can provide information about price, hardware requirements, recommended grade level and a summary of the main features of 1,200 educational computer products. Four hundred of these evaluations are software packages. The database also provides information about computer hardware. Software is evaluated in four areas; pedagogical content, instructional presentation, documentation, and technical adequacy. Comments about strengths and weaknesses of the software are included in the evaluations.

There is no charge for the service, which is accessible Canada-wide. Users need to have a modem and communication software that can emulate a common computer terminal. For further information and application forms for ID contact: Dr. Ronald Owston, Director, Centre for the Study of Computers in Education, York University, 4700 Keele Street, North York, Ontario, M3J 1P3 (416) 736-5019.

Technology for Everyone !

Southwestern Regional Centre recently hosted the "Technology for Everyone" conference in Chatham, Ontario. People met to hear what is happening in the field, as well as to share some successes and developments in the use of technology with the nonspeaking population. Topics such as computers in the preschool environment, communication training programs for multi-handicapped adults, engineering accomplishments, and the creation and use of communication boards made this a truly all encompassing conference. There was "something for everyone" to enable the participants to gain some new insight and knowledge. We can look forward to next year's conference as another opportunity to get together and exchange information. If you are interested in a copy of the proceedings send a cheque or money order for \$20.00 to :
Paul McPhail
Technology for Everyone Conference
Southwest Regional Centre
P.O.Box Box 1000
Blenheim, Ontario
N0P 1A0

Applied Technology — A Road to Communication

LINDA CONLEY

Linda Conley is a teacher working at Alternatives, a program sponsored by the Adult Education Branch of the Prince Edward County Board of Education in conjunction with Prince Edward Heights, a facility for developmentally disabled people. Prior to her recent move to the school board, she worked as a teacher at Prince Edward Heights, in their adult education program. It was there that she became involved with Shelly.

Recently, at the "Technology for Everyone" conference in Chatham, Ontario, she presented an interesting case study about Shelly, a blind, physically involved, self-abusive young lady who has been institutionalized since the age of three. She is now twenty-nine years old.

In the following article, Ms. Conley shows the progress made over a two year period as Shelly moved from using limited communication to choice-making, using adapted, homemade and commercial technology.

My involvement with Shelly began almost accidentally. I had been doing some work with low functioning clients using the computer, and the client I was working with was moving, so I was looking for a new challenge. Shelly appeared at my door one morning when the kinesiologist student who was working with her was waylaid. Shelly seemed to be an ideal candidate for computer assisted learning. Her needs were many, and in the past all sorts of conventional methods had been used to try to get her to communicate, without conspicuous success.

The problem facing us was where to begin with Shelly. On that first day, for some reason I could not start to work with Shelly right away, so I said, "Put her on Pic-a-Pec", a cause and effect program from Grandriver Software. When after a few moments I arrived at the computer, Shelly was yelling and hitting her face. My fellow

experimenter exclaimed, "I don't think this is going to work."

Beginning Simply

We had to find a place to begin. After reviewing the first attempt we knew any computer program used with Shelly had to include sound and be accessed through discrimination of textures.

We began working with the Muppet Learning Keys from Sunburst. I covered the GO key with Velcro and proceeded to teach Shelly that if she touched that texture she would get an auditory response. It took a few sessions to teach her to touch the board. Once this step was mastered she revealed that she preferred music to other auditory responses and most enjoyed violin music.

Once Shelly had mastered the cause and effect aspect of the computer, I wanted a program that would talk for her. Nothing we had in our resources seemed able to meet that need, so I decided to use single switches and tape recorders. First, I taught her to play recorded violin music by touching and continuing to touch a single switch. When she could maintain the music for thirty seconds, I introduced her to a five-

switch board by Tash hooked up to a tape recorder with a pre-recorded tape saying "I want candy" over and over. I covered the active switch with flannel cloth and introduced it to Shelly. She learned within a few sessions to ask for candy. Now that Shelly had learned she had the power to ask for something and have her request met, introducing her to the next texture to ask for chips was quite easy.

Shelly's progress was rapid. She was adding a new choice every week and soon had an array of four choices including candy, chips, juice, and music. I had a tangle of wires and tape recorders because each response took a separate tape recorder with a pre-recorded tape. Some sessions were a constant muddle of technical problems, wrong connections, broken adaptors, and worn down batteries, and worst of all, my family was demanding their tape recorders back.

This system had worked well enough for training, but we had reached the limit of its capabilities. It was cumbersome, took a long time to set up, and was tied to the classroom. I began to look again for a system that could be expanded to meet Shelly's increasing capabilities and



Linda Conley Working with Shelly. Photo Anthea Weiss, Picton Gazette

that could be used in other locations.

Moving to Expandable Technology

From my investigations, the Touch Master C4 system met the need for a more compact and more readily expandable system. Speech Master is a computer augmented speech device for the Commodore C4 designed by Ronald S. Golemba and Leo Spindel. (See *Communicating Together* Volume 4, Number 4, p.18). The system was primarily designed as an aid for vocally impaired people, to facilitate verbal and written communication. The user communicates by pressing keys on the touch sensitive keyboard supplied with the program. Each key can be programmed to express a word or a phrase, and a series of key presses can be combined to form a sentence.

Introducing Shelly to the Touch Master was fairly easy in that I simply transferred the textures she knew to the Touch Master board. I complicated the process by trying to teach her a two-part response. I wanted her to touch a strip for "I want" at the top of the board and combine it with what she wanted.

Shelly had a good deal of difficulty with this new stage and in trying to help her overcome this obstacle, I fell into the habit of helping her too much. Shelly was not putting enough pressure on the board to elicit a response, so I began to touch her hand to help her. Soon, we were caught in a cycle of stagnation. In helping Shelly, I was really holding her back and keeping her from reaching her potential. Finally, when both Shelly and I reached a point of frustration, I asked for help and a friend who had been interested and involved in this project from the beginning came in to observe a session and was soon able to point out the error of my ways.

One of the dangers of becoming involved in a project like this is that one has the tendency to develop tunnel vision. I desperately wanted Shelly to succeed and to be able to communicate, but I let myself become too emotionally involved and held her back by not allowing her to fail or succeed on her own. I did not have enough faith in her abilities. Once my vision was cleared, I set Shelly free to do it on her own. The

results were amazing. I put the board on the table and put Shelly in front of it. I dispensed with the two part response and only expected her to ask for what she wanted. Within a couple of sessions, Shelly was asking for up to fifty things in a twenty minute session, completely independently. My only role was to give her the things she asked for and record her responses.

Moving from Responses to Real Communication

The problem facing Shelly and I now was how to take what we had learned and use it on the ward to communicate her wants and needs. Realizing that Shelly did not necessarily need the reinforcement of hearing what she was asking for, I designed a set of simple switches that, when touched, would make a bulb light up. The light was for our information, not Shelly's. Gord Fox, our Applied Technology resource person, built the switches into a box and I covered the switches with two familiar textures, for food and drink, and added a new texture to indicate that she wanted to transfer from her wheelchair to her scooter.

I worked with Shelly for about a week. She readily generalized the chips texture to include food in general and worked well with the board. Shelly's case manager took over and began to work with Shelly

on an intermittent basis throughout the day.

Other staff soon caught on to using the box. While visiting the area at supper time recently, a staff member gave me a glowing report about the great day Shelly had experienced because she was able to ask for a drink when she was thirsty and to transfer to her scooter for a change of position. She then went on to request that I add toilet to the board so that Shelly could gain additional independence.

Looking back over nearly two years of working with Shelly reveals joys and triumphs, trials and frustrations. The door to the communicating world has opened for Shelly and I feel greatly privileged that I have been a part of that beginning. □

COMMUNICATION OUTLOOK

Communication Outlook is an international quarterly offering a multi-disciplinary source of information on the latest products, and research & development in augmentative and alternative communication.

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Communication and Behaviour

BARBARA REID



Barbara Reid is a consultant with the Easter Seal Communication Institute. She has been involved in the field of augmentative communication since 1976, first in England and then in Canada. She has worked in research and training as well as consulting, and has co-authored two books and several articles on augmentative communication.

Many years ago, I was tempted to write an article called "My class was full of behaviour problems until I discovered signing". The object was not to satirize our students, but to comment on the 'conversion experiences' of teachers and instructors when they first introduced augmentative communication to a group of nonspeaking children. Wherever I went, there were similar stories — children who had stopped biting and scratching; children who were no longer excluded from their classrooms for acting out; and just as important but less dramatic, children who seemed to settle down and attend to what was going on in school.

It was easy to understand that, before they had an effective communication system, these children were very frustrated. But we were often surprised by how quickly many of them learned the signs or symbols, and replaced their out-

bursts with this new and more acceptable communication.

In the early literature, there were several references to decreases in problem behaviours (e.g. Goodman, Wilson and Bornstein, 1978; Kieran, Reid and Jones, 1982), but the process was viewed as a by-product of communication teaching rather than a central program focus. Recently, more attention has been paid to the relationship between behaviour and communication. Patricia Caro and Martha Snell present some of this work in an article published in the March, 1989 issue of *Education and Training of the Mentally Retarded*.

Identifying the Message

In a section called "Functional Analysis of Communicative Intent", they offer several examples of the pragmatic approach to analyzing behaviour, where it is assumed that all behaviour is communicative (Watzlawick, Beavin and Jackson, 1967). Teachers or therapists are instructed to examine the environmental context in which the behaviour occurs and the consequences of that behaviour, in order to identify the 'message' contained in the behaviour. The intervention phase involves teaching the student a more appropriate way of conveying the 'message'.

For example, a student may cry and throw objects around the classroom four or five times a day. Closer analysis may show that the outbursts only occur after the student has been working with the materials for ten or twelve minutes. Each outburst has the same consequence — the teacher asks the student to stop shouting, pick up the objects and put them away, using hand-over-hand prompting to achieve this, if necessary. In fact, the child may be saying "I'm bored, please change my activity", since the result of each outburst is that the original objects are put away. Caro and Snell suggest that a new signal which conveys the message "I'm bored" be selected or designed to be both easily learned by the student and appropriate to the classroom setting. This could be a

sign or gesture, a symbol to point to or take to the teacher, or a bell to ring. Use of the new signal should be taught in context. In this case, it should be possible to anticipate the boredom and prompt the student to use the new signal just before she bursts out with the old one.

Donnellan et al. (1984) presented the case of an adolescent who engaged in self-injurious behaviour. Careful observation suggested that the 'message' of his behaviour was a request for help and attention. Three new responses helped him to convey his message more safely: tapping an adult's shoulder for attention, signing for help, and pointing to the materials he needed help with.

Caro and Snell, drawing on the work of Reichle, Rogers and Barrett (1984), remind us that while some of these students may not have the 'pre-requisite skills' for formal symbolic language, their purposive behaviour indicates a readiness to learn to communicate certain specific messages.

Two observational tools can help teachers, therapists and instructors to analyse behaviour in terms of communicative function. These are the *Motivational Assessment Scale* (Durand, in press) and an unnamed observation tool published by Donnellan and others in 1984. The *Motivational Assessment Scale* also identifies alternative communicative responses which could be substituted for the unacceptable behaviour.

While analysis of a student's needs and interests is a very common starting point for communication programming, some students may gain as much from an analysis of the messages which they are already trying to give us, in a form often labelled as a 'behaviour problem'. Any success we have in giving the student more acceptable ways of communicating is likely to have a positive impact on all of that student's interactions. □

References

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READERS WRITE

My Ways of Communicating

LIZ ISAAKS AND FRANCES HELD

I've been reading Communicating Together for about four years and have always enjoyed it. My favourite parts are the articles about individuals who use Blissymbols or other augmentative ways of communicating. Every time I read an article, I think to myself "Boy! One day I'm going to write an article, too, about one of my many friends who use Bliss or other systems to communicate."

It wasn't easy to decide which friend I would choose, but after a while, I chose Liz, and the two of us worked on the story together. I hope in time I get the chance to write articles with or about my other friends.

Liz and I have known each other for six years. We got along great from the start and became close friends. Sometimes we get the chance to see each other a lot and sometimes we don't see each other for a month or so. But we keep in touch on the telephone.

There are many things I love about

Liz. She is an intelligent, attractive, well-dressed woman who is very capable. I love her sense of humour. All you have to do is smile at her when she is eating and she will crack up. For the time I've known Liz, we've always had a great time. She is a fun person to be with, and also very caring. She loves to help and will insist on it. She was very excited to write this article about herself and her ways of communicating, so here it is!

Frances Held

Hi, my name is Liz Isaaks. I am twenty-six years old, I live in Winnipeg, Manitoba. I live at home with my mom and dad and my two younger sisters, Cindy and Barb, and my friend Janice.

I like to do many things: I like using my bike (scooter), shopping, and listening to music. My favorite singer is Anne Murray. I like visiting friends and going camping.

I work at Norshell Center where I do typing. I like my job.

I use my wheelchair but at home or around work I use my crutches. When the weather is nice, I ride my bike a lot. I love my bike; it's like a car, I even have a horn on it.

I don't have very clear speech. When I'm talking with people who don't know me well, I type out messages on my Cannon Communicator. Some times I communicate by writing things down with a pen and paper. I know some American Sign Language, and if the other person does as well, I can finger spell names of people, etc. and use hand signs.

Sometimes it is hard when people don't understand me or when they don't take the time to. But I keep trying as I know they will once they get to know me. □

Editor's Note:

Anyone interested in writing to Frances or Liz may contact them:

Ms Frances Held
79 McAdam Avenue
Winnipeg, Manitoba R2W 0B2
Ms Liz Isaaks
51 Nicollette Avenue
Winnipeg, Manitoba R2M 4X6

From the leading edge of the nonspeech communication movement

AAC: AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

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Blissymbols and the Macintosh Computer

A Blissymbol font has recently been developed for the Macintosh computer by Peter Reich, Professor of Linguistics, University of Toronto, Toronto, Ontario. The font is used in several new applications programs now available.

MACROBLISS

This program provides the best way to insert Blissymbols into text being composed in the word processing program MICROSOFT WORD 4.0. If there is sufficient demand, this application could be adapted to any other word processing system on the Macintosh. Using MACROBLISS, one can type or call up any Blissymbol by typing the English word followed by the letters "bt". The Blissymbol will then appear in the text. This product requires a Macintosh with 1 megabyte memory and a double sided disc drive. There will be regular updates to include newly approved symbols.

STORYBLISS

StoryBliss is a software program using Hypercard with the Macintosh SE, developed by Russell Galvin and Shirley McNaughton. It applies the Blissymbol font (Reich, 1989), to a reading program for Blissymbol users. The program consists of two sections: BlissWriter and BlissReader.

Through *BlissWriter*, an instructor can enter the text of a story, 'chunk' the text into sections and apply Blissymbols to each section. If the instructor has a scanner available, illustrations and animation can be added.

Through *BlissReader*, the student can view the pages of the story on the screen, as prepared by the instructor. The student can 'read' the story, in Blissymbols or in words or through having both on the screen at the same time. As the text is scanned, the synthetic speech of the Macintosh is produced. The student can choose to linger on a page, or to repeat any chunk or any word. Through scanning menus, the student uses a single switch to control the program. The responses and scanning timing are determined and set by the student.

StoryBliss has been designed to

give the Blissymbol user who is learning to read, the opportunity for many repeated independent reading experiences, gradually phasing out the Blissymbols and relying increasingly upon print. It is based upon an approach to reading developed by Shirley McNaughton and her colleagues during the 70's. The major difference is that now all of the options are under the control of the student rather than being presented by the teacher.

For more information and prices, contact Katherine Seybold, Blissymbolics Communication International, 250 Ferrand Drive, Suite 200, Don Mills, Ontario M3C 3P2

Blissymbols and the IBM Personal System/2 ISBLISS Symbolic - Processing Program

ISBLISS displays Blissymbols with accompanying word arranged in tables. The tables can be scrolled backwards, forwards, up and down the screen enabling the user to select a Blissymbol for display in a fixed screen window. This Blissymbol can then be copied into a text display line at the top of the screen. Text created this way can be saved to the computer's memory or a diskette and printed out.

Release 1.0 of the *ISBLISS* program contains a standard vocabulary of 500 Blissymbols. Further releases will include up to 2000 symbols.

The Blissymbols are presented on the screen in coloured squares. Nine different colours are used. The user can choose from several different languages for the accompanying text. The program was developed in Iceland by John Magnusson in co-operation with the University of Iceland.

The *ISBLISS Symbols - Processing Program* operates on IBM Personal System/2 model 30 - 286 or compatible computer with VCA screen board and colour display. It requires DOS 4.0 and 640 K RAM. For more information and pricing, contact: JHM, Hnjukasel 9, 109 Reykjavik, Iceland.

VHS Videotapes Available from Adaptive Communication Systems (ACS)

• Talking Board/Audscan II/Switches

— demonstrates the Talking Board software program; Audscan II and various switches.

• Communication Opportunities for Individuals with Amyotrophic Lateral Sclerosis (ALS)

— highlights desired device characteristics needed for an individual with ALS, demonstration of E Z Keys, Words+ Scanning Key Board Emulator, Long Range Optical Pointer, Equalizer with Word Prediction, Switches, RealVoice, EvalPAC with the RealVoice.

• Quick & Easy Wheelchair Assessment Kit

— identifies different parts of the kit and various ways to mount devices, trays, computers, printers and switches.

The cost is \$25.00 (U.S.) for each tape. Purchasers are permitted to make copies of these tapes. Send request and payment to Adaptive Communication Systems, Inc., 354 Hookstown Grade Road, Clinton, PA 15026. Visa and MasterCard are accepted by ACS. Allow 3-4 weeks for delivery.

New Release of RealVoice Speech Synthesizer for IBM Personal Computer

ACS has released a new plug-in modular design of the Real/Voice Speech Synthesizer for IBM compatible computers. There is no adaptation necessary to the computer. The Real/Voice PC plugs into the serial port (cable is included) and can be transferred easily to any portable desktop or laptop PC.

Cost, including rechargeable battery and cable, is \$1595.00 (U.S.). For more information contact Adaptive Communication Systems Inc., 354 Hookstown Grade Road, Clinton, PA 15026.

SCHEDULE OF EVENTS

ESCI Special Interest Seminars

In Toronto, Ontario

Seminars planned for the Spring 1990:

- Basic Sign Language for Use with Augmentative Communicators. A six week evening course on Mondays beginning January 15, 1990.
- Intermediate Signing for Use with Augmentative Communicators. A six week evening course on Mondays beginning April 2, 1990.
- Programming for Augmentative Communicators in the Elementary Classroom. Tuesday, April 3, 1990
- Bliss in a Day Wednesday, April 4, 1990
- Developing Augmentative and Alternative Communication Programs for Developmentally Disabled Students. Six sessions on alternate Thursday evenings beginning April 5, 1990
- Selecting Graphics for Communication Boards. Thursday, May 24, 1990
- Blissymbol Elementary Workshop. Monday to Wednesday, May 28-30, 1990

All seminars will be held in the ESCI Resource Room, 250 Ferrand Drive, Don Mills, Ontario M3C 3P2.

Inquiries are invited from organizations wishing to host one of these seminars in their own facility.

For further information contact:
Training Coordinator
Easter Seal Communication Institute,
250 Ferrand Drive, Suite 200,
Don Mills, Ontario M3C 3P2
Telephone: (416) 421-8377, ext. 2205

Blissymbolics Communication International Elementary Workshops

In Calgary, Alberta

January 24-26, 1990
Contact: Loretta Biasutti, BVM Associates, 34 Grafton Crescent S.W., Calgary, Alberta T3E 4X1

In Albany, New York

• April 20-22, 1990
Contact: Dorie Godfrey, VP Training and Development, Centre for

the Disabled, 700 South Pearl Street, Albany, New York 12202
Telephone: (518) 489-8336

In Toronto, Ontario

• May 28-30, 1990
Contact: Training Coordinator,
Easter Seal Communication
Institute, 250 Ferrand Drive, Suite
200, Don Mills, Ontario M3C 3P2
Telephone: (416) 421-8377 ext. 2205

Technology and Persons with Disabilities

In Los Angeles, California

• March 21-24, 1990
Contact: Dr. Harry J. Murphy,
California State University, Northridge,
Office of Disabled Student Services — DVSS, Northridge,
CA 91330
Telephone: (818) 885-2578

Fourth International ISAAC Conference

In Stockholm, Sweden

• August 12-16, 1990
Contact: The Institute for Integration,
Norrmalmstorg 1, S-111 46
Stockholm, Sweden

Focus 90 Integration: A Shared Responsibility

In Victoria, British Columbia

• April 4, 1990
The British Columbia Conference emphasizing a cooperative approach toward the integration of children with disabilities in regular school settings.
Contact: Mrs. Barbara Smith,
c/o Victor School, 2260 Victor Street, Victoria, British Columbia, V8R 4C5
Telephone: (604) 595-7511

Annual CEC Convention "Reaching for the Top"

In Toronto, Ontario

• April 23-24, 1990
Contact: CEC Department of Profes-

sional Development, The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091 U.S.A.
Telephone: (703) 620-3660

About the Publisher

The Easter Seal Communication Institute, ESCI, (formerly the Blissymbolics Communication Institute, established in 1975, has worked since its inception toward enhancing the lives of nonspeaking people. In its early years the Institute's primary focus was the development and application of Blissymbolics as an augmentative communication system around the world. This role continues through Blissymbolics Communication International, a division of ESCI, but within a broader mandate that reflects the philosophy and perspective of its professional staff.

ESCI supports effective communication by nonspeaking people through:

- (1) Contributing to the field of augmentative and alternative communication in a manner that promotes cognitive, social and emotional growth.
- (2) Implementing services to improve the quality of instruction for augmentative communicators toward the development of cognitive, social and emotional growth.
- (3) Educating, informing and increasing the awareness of those who are in a position to make positive life changes for nonspeaking people.
- (4) Incorporating Blissymbolics Communication International within ESCI, to maintain support for the system of Blissymbolics, considering it to be a valuable means to advance augmentative communication that contributes to development and growth.
- (5) Making augmentative communication materials and publications readily available to those who require them.

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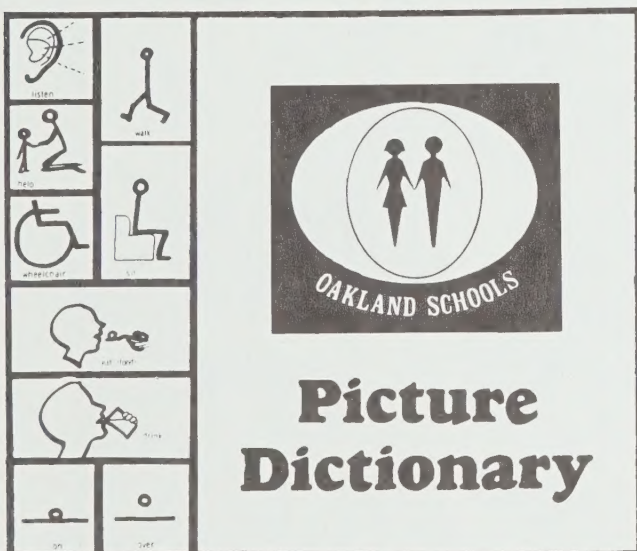
Products are stocked in Toronto.

Graphic Communication Systems

- Blissymbolics
- WRITE and SPEEC
- Worldsign
- PICSYMS

Graphic Picture Sets

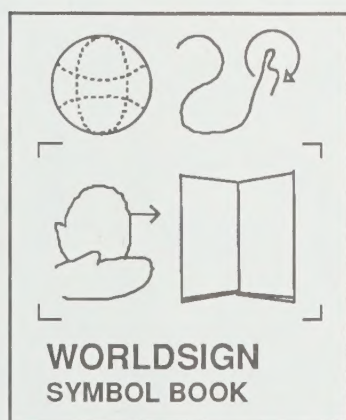
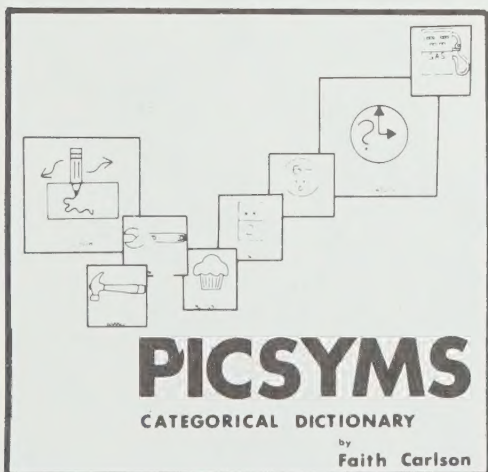
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- Oakland Schools Picture Dictionary
- Picture Communication Symbols
- Pictures Please!



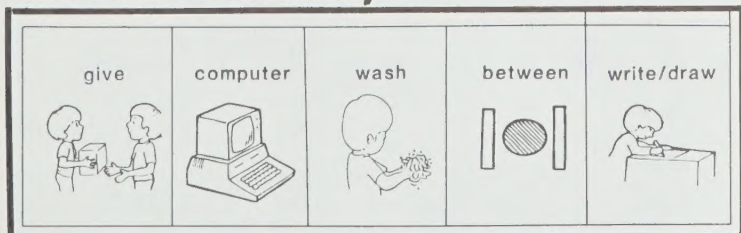
Blissymbolics

mouth ○	(to) communicate ↑ ↓ ↻	funny ♥ ↑ ○	song ○ d
mind ⌒	(to) learn ↑ ↓ □	interesting ♥ ↑	school ⌒ ↑ ⌒
feeling ♥	(to) smile ♥ ↑ ⊕	special ♥ ↑	friend ⊥ ♥ +!

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Until recently, for most cognitively intact communication aid users, the only way to communicate quickly was with general purpose sentences. A sentence strategy vocabulary certainly worked well for general purpose ideas. However, to say something specific (which was the need most of the time) a user had to resort to spelling, and spelling proved to be just too slow.

What was needed was a way for users to fully express themselves at a rate much faster than spelling. Words Strategy accomplishes that.

Words Strategy is a customized vocabulary for Prentke Romich Company's Touch Talker and Light Talker. It lets your clients communicate with the precision that was once achievable only by spelling but with 1/3 to 1/4 the effort. This combination of speed and content results in more effective communication.

Words Strategy Offers:

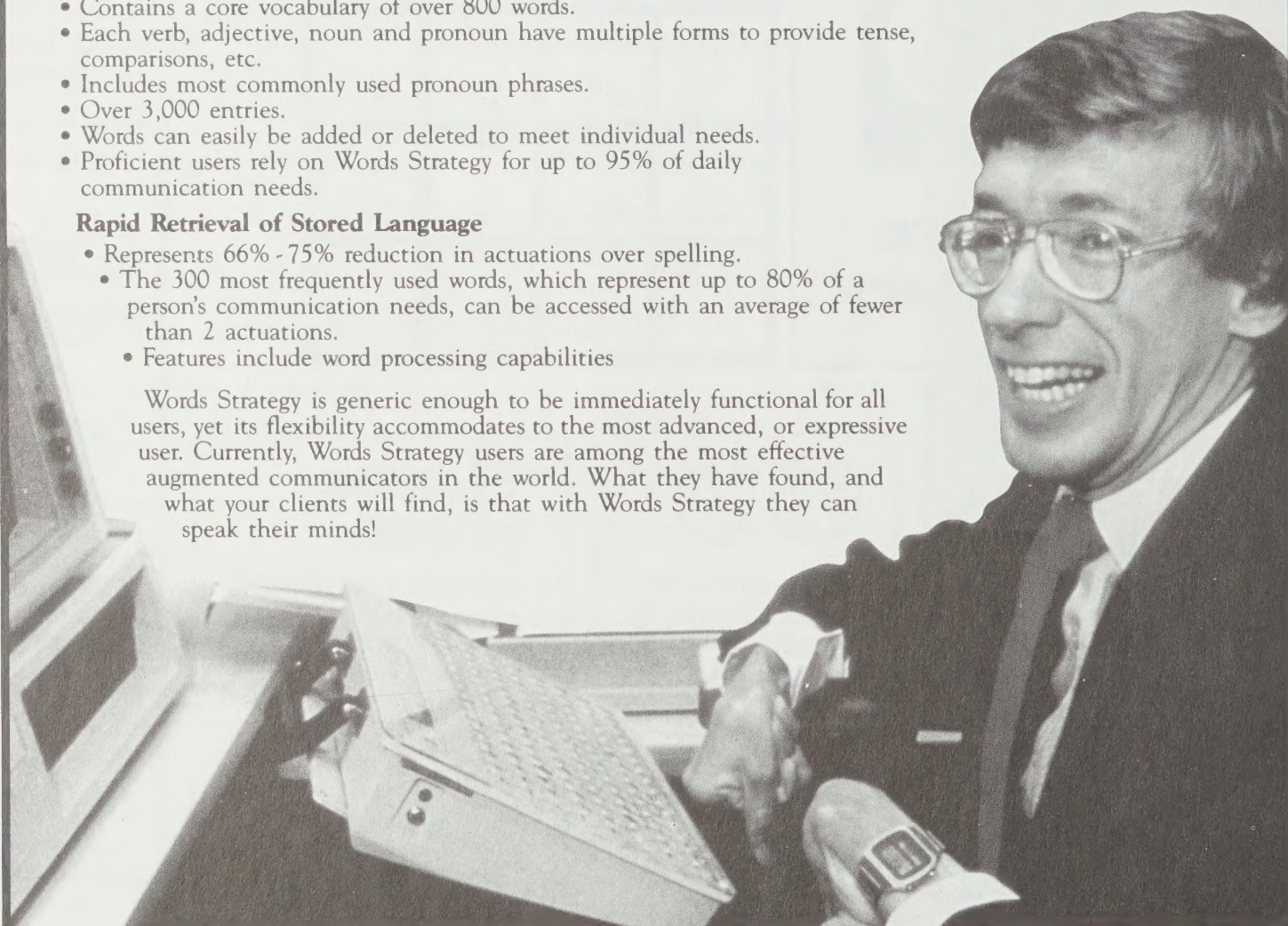
Flexibility of Expression

- Contains a core vocabulary of over 800 words.
- Each verb, adjective, noun and pronoun have multiple forms to provide tense, comparisons, etc.
- Includes most commonly used pronoun phrases.
- Over 3,000 entries.
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- Proficient users rely on Words Strategy for up to 95% of daily communication needs.

Rapid Retrieval of Stored Language

- Represents 66% - 75% reduction in actuations over spelling.
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- Features include word processing capabilities

Words Strategy is generic enough to be immediately functional for all users, yet its flexibility accommodates to the most advanced, or expressive user. Currently, Words Strategy users are among the most effective augmented communicators in the world. What they have found, and what your clients will find, is that with Words Strategy they can speak their minds!



For further information, please contact your local PRC consultant,
or contact us for the name of our local consultant in your area.